

## **ABSTRACT**

### **AIM**

- To assess the role of transrectal ultrasound in accurately identifying malignant lesions in prostate.
- To assess the role of strain elastography in prostate cancer in terms of lesion identification and biopsy guidance.
- To stratify the sonoelastographic findings on the basis of grading systems and its correlation with biopsy findings.
- To correlate grey scale and sonoelastographic findings with histopathology.

### **MATERIALS AND METHODS**

Prospective study done was on thirty patients from December 2014 to September 2016 referred with elevated PSA levels and abnormal findings on DRE which were suspicious for prostatic malignancy. All the patients underwent transrectal ultrasonography, transrectal real time strain elastography and were subjected to systematic 12-core biopsy with extra targeted biopsies from abnormal areas detected by transrectal real time elastography and transrectal ultrasound in the same sitting. The interpretation with each of the above mentioned modalities were compared with the Histopathological diagnosis.

## RESULTS

- Transrectal ultrasound had a sensitivity of 78.57 %, specificity of 81.25%, positive predictive value of 78.57 % and negative predictive value of 81.25 % for prostate cancer detection.
- Elastography had a sensitivity of 100 %, specificity of 50%, positive predictive value of 63.64% and negative predictive value of 100 % for prostate cancer detection.

## CONCLUSION

Sonoelastography is a promising new diagnostic method for prostate cancer detection alone or in association with other ultrasound methods. Elastography has increased sensitivity and high negative predictive value for ruling out prostatic malignancies when compared to conventional ultrasound and helps to avoid unnecessary biopsies.

**Keywords:** Sonoelastography, Strain elastography, TRUS, Ultrasound guided biopsy